OHM
Advancing Communities®

Michael Cousins, GISP
Patrick Gross, GISP

GISP: The Road To and Through an Exam

Originally presented by:
Bill Hodge, GISP
GISCI Executive Director

Certification vs. Licensure

Certification

A process, often __voluntary__, by which individuals who have demonstrated a __level of expertise__ in a profession are identified to the public and other stakeholders by a third party.

Designed to recognize expertise

Licensure

The granting of a license to practice a profession, often **regulated by states** and indoctrinated in legislation.

Designed to guard against incompetence

Why does certification exist for any industry?

Any
existing certification
followed a similar path:

Idea → Technology → Industry → Profession → **Certification** → Continued Industry Growth

One certification leads to another

Managerial Certification — Managerial position, experience, **AND** an exam

↑

Higher Level Certification — Professional experience **AND** an exam

↑

Entry Level Certification — **NO** experience needed; **FOR** a specific profession

↑

General Certification — **NO** experience needed; **NO** specific profession

↑

Provisional Certification — Requires further experience for full certification
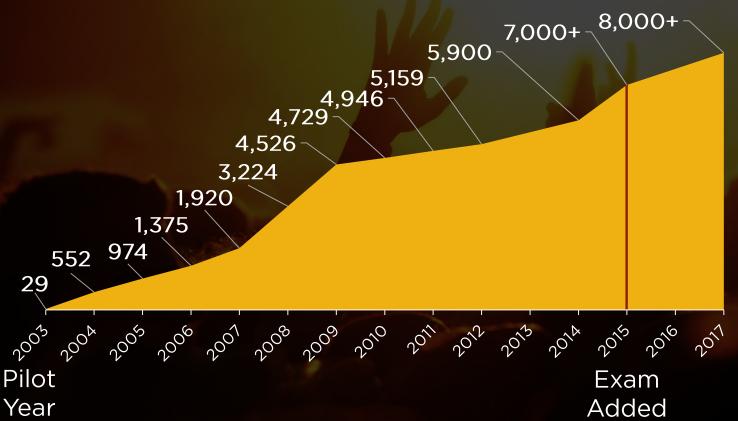
GISP – An Updated Perspective

Certification?

GISP Certification History

GISP Current Process

Exam Creation & Considerations

Future Direction

Certification History

8,000+

7,000+

5,900

5,159

4,946

4,729

4,526

3,224

1,920

1,375

974

552

29

2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017

Pilot
Year

Exam
Added

Certification History

2017:   8,000+ active GISPs

2015 – 2017:   10,000+ potential GISPs have
                         registered on the GISCI site to
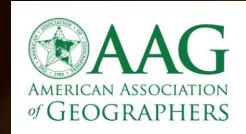   start/explore the process

2017 & Beyond: 20,000+ by 2024 ?

Board Members

- One of the strengths of GISCI has been the strong and diversified board representation over the years

- The current board makeup reflects that same passion, experience, and service

- GISCI is composed of Member Organizations & Strategic Partners

Member Organizations

Strategic Partners (2015)

GISP Current Process

Initial GISP: Portfolio Requirement + Exam

- Portfolio Application (Online)
  - Education, Experience, and Contributions
  - Minimum point requirements for each category

- Ethics Statement – Sign & upload

- Minimum of 4 years professional geospatial experience

GISP Current Process

Initial GISP: Portfolio Requirement + Exam (cont'd)

Category	Credits Required
Educational Experience	30
Professional Experience	60
Contributions to the Profession	8
Combination (Any Category)	52
Total Credits	**150**

GISP Current Process

Recertification: Portfolio Requirement

- Education & Contributions (Required)

- Experience (Optional)

- Exam not required for recertification

- Online Application

- Recertification every three years

GISP Current Costs

Certification Costs:

- Application Fee - $100

- Portfolio Review Fee - $100

- Exam Fee
    - $250 (U.S. & Canada)
    - $300 (International)

GISP Current Costs

Recertification Cost:

- Maintenance Fee
  - $95/year, or $285 one-time payment

Creation

August 2012:   GISCI Board selects exam development
                                     project manager & psychometric
                                     consultant – starts job analysis

November 2015:   Inaugural Exam Deployment

Next testing window is in Fall 2017:
Application Period: Open until November 20
Exam Dates: December 2-9

Creation

- Written by GISPs for GISP Certification

- Composed at a 4-year experience level

- Centered on applied knowledge

Considerations

- The exam is required in addition to the portfolio process

- Two offerings per year (Summer & Fall)

- Exam can be taken at any time in a person's career

For Students:

- Can take exam before or at the time of graduation

- 6-year window to complete all parts of certification process

Composition

Time Allowed: 4 hours

Number of Questions: 192

Scored Questions: 100

Passing Score: 75%

Remainder of exam questions will undergo
evaluation for use on a later exam

Composition

Conceptual Foundations	12%
Cartography & Visualization	14%
GIS Design Aspects & Data Modeling	29%
GIS Analytical Methods	17%
Data Manipulation	15%
Geospatial Data	13%

Composition

Conceptual Foundations (12%)

101 – Knowledge of spatial relationships

102 – Knowledge of standard spatial data models (vector, raster, object-related models)

103 – Understanding the conceptual foundations

104 – Knowledge of Earth geometry

105 – Knowledge of georeferencing systems, including coordinate systems

Composition

Cartography & Visualization (14%)

206 – Knowledge of contour mapping

207 – Knowledge of basic physical geography

208 – Knowledge of how data collection methods influence map design

209 – Knowledge of graphic representation

210 – Knowledge of principles of map design

211 – Understanding of how data classification techniques affects the thematic map

Composition

GIS Design Aspects & Data Modeling (29%)

312 – Knowledge of data exchange procedures

313 – Knowledge of security restrictions on data

314 – Knowledge of database administration

315 – Knowledge of systems architecture & design

316 – Knowledge of the enterprise environment

317 – Knowledge of schemas and domains

318 – Knowledge of digital file management

319 – Knowledge of database design

320 – Knowledge of database general structure

321 – Knowledge of geospatial data structure

322 – Understanding of desktop, server, enterprise, and hosted applications

323 – Working knowledge of GIS hardware and software capabilities

324 – Knowledge of data models, including vector, raster, grid, TIN, etc.

Composition

GIS Analytical Methods (17%)

425 – Knowledge of overlay analysis

426 – Knowledge of planar geometry (e.g., points, lines, polygons)

427 – Knowledge of algebra

428 – Knowledge of statistics

429 – Knowledge of basic programming

430 – Knowledge of raster/vector principles

431 – Knowledge of scales (e.g., visual, verbal, relative, absolute)

432 – Knowledge of units of measurement (e.g., conversion & angular vs. metric)

Composition

Data Manipulation (15%)

533 – Knowledge of selection queries

534 – Knowledge of different data types (e.g., shp, GDB, coverage, DGN, TXT, IMG)

535 – Knowledge of different field types

536 – Knowledge of data relationships

537 – Knowledge of data collection

538 – Knowledge of data quality, including accuracy, precision

Composition

Geospatial Data (13%)

639 – Knowledge of metadata and standards

640 – Understanding of the difference between geospatial QC & QA

641 – Knowledge of date archiving and retrieval

642 – Knowledge of differences among join, merge, union, clip, intersect

643 – Knowledge of basic field data

644 – Knowledge of basic field data collection

Preparation

- Download and study the Exam Candidate Manual from GISCI's site

- Examine the GIS&T Body of Knowledge for reference material
  - http://www.aag.org/cs/bok

- Examine URISA's site for Exam Preparation Workshop info
  - http://www.urisa.org

- Search the web for individual knowledge, skill, and ability (KSA) materials

- Refer to your own textbooks and class materials

- Visit previous exam taker's searched materials (link on GISCI site)
  - https://www.gisci.org/ExamInfo/ExamCandidateInformation/ ExamPreparationInfo.aspx

Preparation

- Visit the GeoTech Center website @ www.geotechcenter.org

- Once there, take the Personal Assessment Tool online survey

- GISCI Practice Exam 1 – now on the web site:

    - https://www.gisci.org/ExamInfo/ExamCandidateInformation.aspx

- Visit our Exam Preparation Information page to stay updated

The key is to focus on the 44 KSAs covered – NOT the entire geospatial world!

Advantages

- Provides for a measurable level of competency

- Provides increased visibility for GISP Professional Certification

- Builds upon the established, successful GISP portfolio

- Provides for increased student participation

- Provides an entry for students early in their careers

- Provides a basis for a move to more specialized certifications

- It continues to advance and consolidate the profession

- More companies now recognize the GISP as a preferred credential

Advice for Aspiring Professionals

- Start a profile on LinkedIn & maintain it

- Plan to take the GISCI Exam as a means to differentiate yourself

- Join professional associations while in school and remain active
  - Reduced membership costs & counts toward "Contributions" portion of GISP portfolio

- Attend a local GIS user group

- Start planning to become a GISP in the future

- **Show an employer you are looking to the future**

Future Direction

- Exam Maintenance & Updating

- GISP Certification Specializations

- Increased International Growth

- New Member Organizations

- Increased participation - 20,000 GISPs by 2024?

OHM
Advancing Communities®

OHM-Advisors.com

Share your vision with us, and together,
we'll create great places for people.